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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte*

DAVID W. CANNELL and JEAN-MARC ASCIONE

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Appeal 2007-4218  
Application 09/648,376  
Technology Center 1600

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DECIDED: January 31, 2008

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Before TONI R. SCHEINER, DONALD E. ADAMS, and RICHARD M.  
LEBOVITZ, *Administrative Patent Judges*.

SCHEINER, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from a final rejection of claims 1-3, 5-12, 16-26, 50 and 53<sup>1</sup> as obvious over the prior art. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

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<sup>1</sup> Claims 4, 27-36, 38-40, and 44-49 are also pending, but have been withdrawn from consideration. Claims 13-15, 37, 41-43, 51, and 52 have been canceled.

## STATEMENT OF THE CASE

“The present invention relates to a composition for the protection of keratinous fibers containing at least one compound chosen from ceramides and glycoceramides, at least one cationic polymer, and at least one amphoteric polymer” (Spec. 1: 1-3).

Appellants have provided a separate argument for the patentability of claim 50. Therefore, we will focus on claims 1 and 50 as representative of the claimed subject matter. Claims 2, 3, 5-12, 16-26, and 53 will stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(vii).

Claims 1 and 50 read as follows:

1. A composition comprising:  
at least one compound chosen from ceramides and glycoceramides,  
at least one cationic polymer, and  
at least one amphoteric polymer chosen from polyquaternium-22,  
wherein the weight ratio of said at least one cationic polymer to said at least one amphoteric polymer is greater than or equal to 3:1.
50. A multi-compartment kit for chemical treatment of keratinous fibers, said kit comprising at least two separate compartments, wherein  
a first compartment comprises a composition comprising  
at least one compound chosen from ceramides and glycoceramides,  
at least one cationic polymer, and  
at least one amphoteric polymer chosen from polyquaternium-22, and  
a second compartment comprises a composition for chemical treatment of said keratinous fibers,  
wherein said composition for chemical treatment is an oxidizing composition.

### ISSUES ON APPEAL

The Examiner rejected claims 1-3, 5-12, 16-26, 50, and 53 under 35 U.S.C. § 103(a) as unpatentable over Dubief,<sup>2</sup> Cauwet,<sup>3</sup> and Grollier.<sup>4</sup>

With respect to claim 1, the Examiner contends that it would have been obvious to include an amphoteric polymer in Dubief's ceramide and cationic polymer-containing hair treating composition (Ans. 4), because both Grollier and Cauwet "teach[ ] the benefit of [a] combination of cation[ic] polymer and amphoteric polymer in hair treating composition[s]" (*id.*), and Cauwet teaches "polyquaternium[-22] in particular . . . in combination with cationic polymer" (*id.* at 6). "As to the particular ratio of the two polymers" (*id.* at 5), the Examiner contends that the ratio required by the claims lies within the broader range (10:1 to 1:10) disclosed by Grollier, and would have been obvious "absent evidence showing the criticality of the ratio" (*id.*).

Appellants contend that Cauwet "teaches away from the present claims, despite the fact that it discloses polyquaternium-22" (Br. 12), by disclosing that "the weight content of cationic polymers needs to be *equal to or less than* amphoteric polymers" (*id.* at 13).

Thus, the issue raised by this appeal with respect to claim 1 is whether it would have been obvious to combine the amphoteric polymer, polyquaternium-22, with a ceramide and a cationic polymer, at a weight ratio of the cationic polymer to the amphoteric polymer greater than or equal to 3:1, given the scope and content of the prior art, the level of ordinary skill

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<sup>2</sup> U.S. Patent 5,700,456 to Dubief et al., issued December 23, 1997.

<sup>3</sup> U.S. Patent 5,656,258 to Cauwet et al., issued August 12, 1997.

<sup>4</sup> U.S. Patent 5,958,392 to Grollier et al., issued September 28, 1999.

in the art, and the differences between the claimed invention and the prior art.

The issue with respect to claim 50 is whether it would have been obvious to provide a kit comprising two separate compartments: one compartment containing a ceramide or glycosphingolipid, a cationic polymer, and polyquaternium-22; the other compartment containing an oxidizing composition for chemical treatment of keratinous fibers (e.g., hair).

#### FINDINGS OF FACT<sup>5</sup>

##### *Dubief*

1. Dubief describes “compositions intended for the treatment and protection of hair and containing, in a cosmetically acceptable medium, at least one ceramide and/or glycosphingolipid and one cationic polymer containing nitrogen atoms in the main chain” (Dubief, col. 1: ll. 7-11).
2. “[T]he combination of ceramides or glycosphingolipids with certain cationic polymers results in especially advantageous cosmetic properties, in particular as regards wet disentangling” (Dubief, col. 1, ll. 30-33).
3. Dubief’s compositions “may be used before or after shampooing, before or after permanent waving or between the reducing and fixing stages, and before or after bleaching or dyeing or straightening” (Dubief, col. 9, ll. 15-18).
4. Examples of cationic polymers suitable for Dubief’s compositions include Cartaretine F, F<sub>4</sub>, and F<sub>8</sub>, Delsette 101, Merquat 100, and Hercosett 57 (Dubief, col. 2, l. 8 to col. 5, l. 16).
5. Dubief’s compositions do not include amphoteric polymers.

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<sup>5</sup> Abbreviated “FF”.

*Grollier*

6. Grollier teaches that “[c]ationic polymers have already been recommended for use in hair-treatment compositions, in particular for making the hair easier to comb out” (Grollier, col. 1, ll. 17-19), but “these cationic polymers . . . exhibit the disadvantage that they do not impart sufficient hold and gloss to the hair” (*id.* at col. 1, ll. 21-23).
7. Grollier describes a “composition intended for the treatment of keratin fibers, which contains at least one cationic polymer and at least one amphoteric polymer” (Grollier, col. 1, ll. 52-55).
8. Grollier’s compositions, containing both cationic and amphoteric polymers, provide “particularly valuable results for treatments usually followed by rinsing, such as shampoo treatments and treatments with lotions or creams which are used to obtain a conditioning effect on the hair and are applied before or after colouring, bleaching, shampooing or perming” (Grollier, col. 1, ll. 43-48).
9. The cationic polymers suitable for Grollier’s compositions are largely the same as those used in Dubief’s compositions, and include Cartaretine F, F<sub>4</sub>, and F<sub>8</sub>, Delsette 101, Merquat 100, and Hercosett 57 (Grollier, col. 8, l. 42 to col. 9, l. 39).
10. Grollier’s cationic and amphoteric polymers “are typically present in the compositions in proportions from 0.01 to 10% by weight and preferably from 0.5 to 5% by weight” (Grollier, col. 13, ll. 24-26; Claim 16). Thus, the ratio of cationic to amphoteric polymers in Grollier’s preferred compositions ranges from 10:1 to 1:10 (Ans. 6).

11. Grollier does not disclose polyquaternium-22 as the amphoteric polymer.

*Cauwet*

12. Cauwet teaches that “compositions for the treatment of hair containing a combination of a cationic polymer and an amphoteric polymer . . . are superior to compositions containing only a cationic polymer or an amphoteric polymer . . . [but are] not completely satisfactory with regard to the properties of disentanglement and softness conferred on the hair” (Cauwet, col. 1, ll. 41-48).

13. Cauwet teaches that lotions with cationic polymer to amphoteric polymer ratios of 0.75, 0.5, and 0.1 “represent a synergistic effect compared to lotions” with ratios of 1.5 and 1.0, with respect to disentanglement of wet hair (Cauwet, Example 1, col. 6, l. 58 to col. 7, l. 58).

14. MERQUAT 280 is disclosed as a particularly preferred amphoteric polymer, and is used in many of Cauwet’s Examples, including Example 1 (Cauwet, col. 3, ll. 25-29).

15. MERQUAT 280 is the same as polyquaternium-22 (Spec. 29: 15-16).

#### DISCUSSION

The Supreme Court recently reiterated “the need for caution in granting a patent based on the combination of elements found in the prior art” (*KSR Int’l v. Teleflex Inc.*, 127 S. Ct. 1727, 1739 (2007)), particularly where there is “no change in their respective functions” (*id.*). In other words, “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results” (*id.*). Moreover, “a prior art reference that discloses a range encompassing a

somewhat narrower claimed range is sufficient to establish a *prima facie* case of obviousness.” *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003). “[T]he existence of overlapping or encompassing ranges shifts the burden to the applicant to show that his invention would not have been obvious” (*id.*). In general, an applicant may overcome a *prima facie* case of obviousness by showing that the claimed range achieves unexpected results relative to the prior art (*id.*), or that the prior art teaches away from the claimed invention (*id.* at 1332).

*Claims 1-3, 5-12, 16-26, and 53*

We agree with the Examiner that the invention of claim 1 would have been obvious over the combined teachings of Dubief, Grollier, and Cauwet, given the fact that ceramides, cationic polymers, and amphoteric polymers were all conventional, familiar components of detangling and conditioning compositions used for the treatment and protection of hair before and/or after chemical processes like permanent waving, bleaching, dyeing, or straightening (*see e.g.* FF 1, 2, 7, 8, 12); the fact that compositions combining cationic and amphoteric polymers were known in the art to have better detangling and conditioning properties than compositions using either polymer alone (FF 8, 12); and the fact that the amphoteric polymer polyquaternium-22 was a conventional component of compositions used for disentangling and conditioning hair (FF 14, 15) .

Appellants argue that “Cauwet expressly teaches polyquaternium-22, [but] . . . also expressly teaches that the weight ratio of its at least one quaternary polyammonium polymer (a) (i.e., cationic polymer) to its at least



one polymer (b) (i.e., amphoteric polymer) . . . [should] be less than 1” (Br. 12), and therefore teaches away from the claimed invention.

A reference is said to “teach away” from a claimed invention when it “suggests that the line of development flowing from the reference’s disclosure is unlikely to be productive of the result sought by the applicant” (*In re Gurley*, 27 F.3d 551, 553, (Fed. Cir. 1994)). That is not the case here. Grollier teaches a range of ratios (10:1 to 1:10 (FF 10)) that encompasses the claimed range of ratios (“greater than or equal to 3:1”). It may be that certain portions of the range produce better results than others, but there is no evidence to suggest that ratios within Grollier’s range would be unsuitable as conditioning compositions.

Moreover, Appellants have not alleged, and we find nothing in Appellants’ disclosure to suggest, that the claimed range is critical, or achieves unexpected results relative to the prior art.

Inasmuch as there is no evidence on this record that the claimed combination of conventional, familiar components of detangling, conditioning compositions, or the ratio in which they are combined, does anything more than yield predictable results, we conclude that the Examiner has set forth a prima facie case that claim 1 would have been obvious over the cited prior art, which Appellants have not adequately rebutted by argument or evidence. As discussed above, claims 2, 3, 5-12, 16-26, and 53 stand or fall with claim 1.

Accordingly, the rejection is affirmed with respect to claims 1-3, 5-12, 16-26, and 53.

*Claim 50*

We also agree with the Examiner's conclusion that the invention of claim 50, a kit containing a ceramide, a cationic polymer, and an amphoteric polymer in one compartment, and an oxidizing composition for treatment of hair in another compartment, would have been obvious over the prior art.

Appellants argue that "the only reference that arguably comes close to teaching a multi-compartment kit is Grollier, which teaches 'two stage formulations[ ]' . . . [which] actually separate the specific cationic and specific amphoteric polymers, contrary to the kit compositions as claimed" (Br. 14).

This argument is not persuasive. First, as discussed above, Grollier teaches formulations in which the cationic and amphoteric polymers are combined (Grollier, Examples 1-20; FF 10). Second, both Dubief and Grollier teach that their protective conditioning compositions are useful before or after chemical processes like straightening, permanent waving, dyeing, and bleaching (FF 3, 8). We have already concluded that it would have been obvious for one skilled in the art to have combined both cationic and amphoteric polymers with ceramides, for the reasons discussed above. As these components are all familiar components of conditioning, detangling compositions, useful *before* or *after* potentially damaging oxidizing processes like bleaching, etc., we agree with the Examiner that it would have been obvious to provide the claimed protective composition and the oxidizing composition together in a kit, but physically separate, for use at the appropriate time.

Accordingly, the rejection is affirmed with respect to claim 50.

CONCLUSION

The Examiner's rejection of claims 1-3, 5-12, 16-26, 50, and 53 under 35 U.S.C. § 103(a) as unpatentable over Dubief, Grollier, and Cauwet is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2006).

AFFIRMED

Ssc:

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